

STATE OF TENNESSEE **DEPARTMENT OF HEALTH ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL Lab Services - Jackson Regional Lab Jackson, TN 38301 731-426-0686

TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Sent To:

Geoff Klein

TDEC-DWS 200 East Race St Knoxville, TN 37763

N00004041 Lab ID:

Nashville Central Laboratory

Sampling Agency: TDEC: Division of Water Supply

Billing Code:

327.39-12

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

N00004041001

Project Name:

Sample Description:

KINGSTON WTP

Sampler Project Name: FINISH

Project Site No.:

Station No.:

Date/Time Collected:

01/22/2009 09:45

Sampler's Name:

BRANDY LONG

County: Sample Matrix: **ROANE - 73**

EFO:

Water Knoxville

Sampling Agency: **Billing Code:**

TDEC-DWS 327.39-12

Send Report To: Agency Invoiced:

TDEC-DWS TDEC-DWS

Priority Date:

Date/Time Received:

01/22/2009 12:40

Received By:

P D Wilson

Field Determinations

pH:

Chlorine, residual:

Conductivity: Temperature:

Dissolved Oxygen:

Other:

Flow:

CFS

TEST: Alkalinity, Total	METHOD: EPA 310.2						
ANALYTE	RESULT UNITS MDL MQL ANALYZED E					DATE	
Total Alkalinity	55	mg/L	3.8	10	M Chen	1/22/2009	

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Calcium hardness	45	mg/L	0.7	1	M Chen	1/23/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

N00004041002

Project Name:

Sample Description:

KINGSTON WTP

Sampler Project Name: RAW

Project Site No.:

Station No.:

Date/Time Collected:

01/22/2009 09:50

Sampler's Name:

BRANDY LONG

County: Sample Matrix: **ROANE - 73**

EFO:

Water Knoxville

Sampling Agency:

TDEC-DWS

Billing Code: Send Report To: Agency Invoiced: 327.39-12 **TDEC-DWS** TDEC-DWS

Priority Date:

Date/Time Received:

01/22/2009 12:40

Received By:

P D Wilson

Field Determinations

pH:

Chlorine, residual:

Conductivity: Temperature:

Dissolved Oxygen:

Other:

Flow:

CFS

TEST: Alkalinity, Total	METHOD: EPA 310.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Alkalinity	54	mg/L	3.8	10	M Chen	1/22/2009	

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Calcium hardness	43	mg/L	0.7	1	M Chen	1/23/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

N00004041003

Project Name:

Sample Description:

ROCKWOOD WTP

Sampler Project Name: FINISH

Project Site No.:

Station No.:

Date/Time Collected:

01/22/2009 10:55

Sampler's Name:

BRANDY LONG

County: Sample Matrix: ROANE - 73

EFO:

Water Knoxville

Sampling Agency:

TDEC-DWS

Billing Code: Send Report To: 327.39-12 **TDEC-DWS**

Agency Invoiced: **Priority Date:**

TDEC-DWS

Date/Time Received:

01/22/2009 12:40

Received By:

P D Wilson

Field Determinations

pH:

Chlorine, residual:

Conductivity: Temperature:

Dissolved Oxygen:

Other:

Flow:

CFS

TEST: Alkalinity, Total	METHOD: EPA 310.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Alkalinity	64	mg/L	3.8	10	M Chen	1/22/2009	

TEST: Hardness, Calcium	ME	÷				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	48	mg/L	0.7	1	M Chen	1/23/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

N00004041004

Project Name:

Sample Description:

ROCKWOOD WTP

Sampler Project Name: RAW

Project Site No.:

Station No.:

Date/Time Collected:

01/22/2009 11:00

Sampler's Name: County:

BRANDY LONG ROANE - 73

Sample Matrix:

Water

EFO:

Knoxville

Sampling Agency:

TDEC-DWS

Billing Code: Send Report To: 327.39-12 TDEC-DWS

Agency Invoiced:

TDEC-DWS

Priority Date:

Date/Time Received:

01/22/2009

12:40

Received By:

P D Wilson

TEST: Alkalinity, Total	METHOD: EPA 310.2					
ANALYTE	RESULT UNITS MDL MQL ANAI					DATE
Total Alkalinity	73	mg/L	3.8	10	M Chen	1/22/2009

Field Determinations

Chlorine, residual:

Dissolved Oxygen:

CFS

Conductivity:

Temperature:

pH:

Other:

Flow:

TEST: Hardness, Calcium METHOD: SM 3500-Ca D						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	53	mg/L	0.7	1	M Chen	1/23/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit



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Nashville Central Laboratory

Sampling Agency: TDEC: Division of Water Supply

Billing Code:

327.39-12

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

Analytical Supervisor

N00004041001

Project Name:

Sample Description:

KINGSTON WTP

Sampler Project Name: FINISH

Project Site No.: Station No.:

Date/Time Collected:

01/22/2009 09:45 Sampler's Name: **BRANDY LONG**

County: Sample Matrix: **ROANE - 73**

EFO: Sampling Agency: Water Knoxville

Billing Code: Send Report To: **TDEC-DWS** 327.39-12 **TDEC-DWS**

Agency Invoiced:

TDEC-DWS

Priority Date:

Date/Time Received:

01/22/2009 12:40

Received By:

P D Wilson

Field Determinations

pH:

Chlorine, residual: Conductivity: Temperature: **Dissolved Oxygen:**

Other: Flow:

CFS

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/23/2009				M Pattanayek	1/23/2009

TEST: ICP-MS	ME	METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	μg/L	0.93	5	M Pattanayek	1/23/2009
Barium	21	μg/L	2.5	5	M Pattanayek	1/23/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	1/23/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	1/23/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	1/23/2009
Cobalt	0.10J	μg/L	0.04	1	M Pattanayek	1/23/2009
Lead	U	μg/L	0.10	1	M Pattanayek	1/23/2009
Manganese	U	μg/L	0.42	1	M Pattanayek	1/23/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	1/23/2009
Thallium	1.1	μg/L	0.03	1	M Pattanayek	1/23/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	1/23/2009

TEST: Mercury METHOD: EPA 245.1						
RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
U	μg/L	0.13	0.2	A Wilson	1/23/2009	
		RESULT UNITS	RESULT UNITS MDL	RESULT UNITS MDL MQL	RESULT UNITS MDL MQL ANALYZED BY:	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

N00004041002

Project Name:

Sample Description: KINGSTON WTP

Sampler Project Name: RAW

Project Site No.:

Station No.:

Date/Time Collected:

01/22/2009 09:50 **BRANDY LONG**

Sampler's Name: County:

Sample Matrix:

ROANE - 73

EFO:

Water Knoxville

Sampling Agency: **Billing Code:**

TDEC-DWS 327.39-12

Send Report To:

TDEC-DWS TDEC-DWS

Agency Invoiced: **Priority Date:**

Date/Time Received:

01/22/2009 12:40

Received By:

P D Wilson

Field Determinations

pH:

Chlorine, residual: **Conductivity:** Temperature: **Dissolved Oxygen:**

Other:

Flow:

CFS

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/23/2009				M Pattanayek	1/23/2009

TEST: ICP-MS	MET	METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL ANALYZED BY:	DATE	
Arsenic	U	μg/L	0.93	5	M Pattanayek	1/23/2009
Barium	23	μg/L	2.5	5	M Pattanayek	1/23/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	1/23/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	1/23/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	1/23/2009
Cobalt	0.21J	μg/L	0.04	1	M Pattanayek	1/23/2009
Lead	0.32J	μg/L	0.10	1	M Pattanayek	1/23/2009
Manganese	27	μg/L	0.42	1	M Pattanayek	1/23/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	1/23/2009
Thallium	0.75J	μg/L	0.03	1	M Pattanayek	1/23/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	1/23/2009

TEST: Mercury	WE:	THOD: EPA 24	5.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.13	0.2	A Wilson	1/23/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

N00004041003

Project Name:

Sample Description:

ROCKWOOD WTP

Sampler Project Name: FINISH

Project Site No.: Station No.:

Date/Time Collected:

01/22/2009 10:55

Sampler's Name:

BRANDY LONG

County: Sample Matrix: **ROANE - 73**

EFO:

Water

Sampling Agency:

Knoxville TDEC-DWS

Billing Code: **Send Report To:**

327.39-12 TDEC-DWS

12:40

Agency Invoiced: **Priority Date:**

TDEC-DWS

Date/Time Received:

01/22/2009

Received By:

P D Wilson

Field Determinations

pH:

Chlorine, residual: Conductivity: Temperature: Dissolved Oxygen:

Other:

Flow:

CFS

TEST: Digestion Metals	MET	HOD: EPA 20	EPA 200.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/23/2009				M Pattanayek	1/23/2009

TEST: ICP-MS	ME.	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	μg/L	0.93	5	M Pattanayek	1/23/2009
Barium	25	μg/L	2.5	5	M Pattanayek	1/23/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	1/23/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	1/23/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	1/23/2009
Cobalt	0.06J	μg/L	0.04	1	M Pattanayek	1/23/2009
Lead	U	μg/L	0.10	1	M Pattanayek	1/23/2009
Manganese	1.3	μg/L	0.42	1	M Pattanayek	1/23/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	1/23/2009
Thallium	0.25J	μg/L	0.03	1	M Pattanayek	1/23/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	1/23/2009

TEST: Mercury	ME	THOD: EPA 24	5.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.13	0.2	A Wilson	1/23/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit MQL - Method Quantitation Limit

N00004041004

Project Name:

Sample Description:

ROCKWOOD WTP

11:00

12:40

Sampler Project Name: RAW

Project Site No.: Station No.:

Date/Time Collected:

01/22/2009 Sampler's Name:

County:

BRANDY LONG

Sample Matrix:

ROANE - 73 Water

EFO: Sampling Agency: Knoxville TDEC-DWS 327.39-12

Billing Code: Send Report To: **Agency Invoiced:**

TDEC-DWS TDEC-DWS

Priority Date:

Date/Time Received:

01/22/2009

Received By:

P D Wilson

Field Determinations

pH:

Chlorine, residual: **Conductivity:** Temperature: **Dissolved Oxygen:**

Other:

Flow:

CFS

TEST: Digestion Metals	MET		····			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/23/2009				M Pattanayek	1/23/2009

TEST: ICP-MS	ME.	ΓHOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	Ų	μg/L	0.93	5	M Pattanayek	1/23/2009
Barium	28	μg/L	2.5	5	M Pattanayek	1/23/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	1/23/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	1/23/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	1/23/2009
Cobalt	0.08J	μg/L	0.04	1	M Pattanayek	1/23/2009
Lead	0.10J	μg/L	0.10	1	M Pattanayek	1/23/2009
Manganese	8.8	μg/L	0.42	1	M Pattanayek	1/23/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	1/23/2009
Thallium	0.17J	μg/L	0.03	1	M Pattanayek	1/23/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	1/23/2009

TEST: Mercury	ME	METHOD: EPA 245.1					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	μg/L	0.13	0.2	A Wilson	1/23/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit MQL - Method Quantitation Limit